IN THE CLAIMS:

1. (Currently amended) A unpolarized beam splitter (UBS) comprising an internal beam-splitting coating that is approximately symmetrical, wherein a beam of light will see about the same layer structure whether it is incident from a front side or a rear side of said coating.

2. (Currently amended) The UBS of claim 1, wherein said coating is designed such that $\Psi_{SR} - \Psi_{SR'} = \Psi_{PR} - \Psi_{PR'}$, wherein Ψ_{SR} is the phase introduced by said UBS for S-polarized light reflected from said front side, wherein $\Psi_{SR'}$ is the phase introduced by said UBS for S-polarized light reflected from said rear side, wherein Ψ_{PR} is the phase introduced by said UBS for P-polarized light reflected from said front side, and wherein $\Psi_{PR'}$ is the phase introduced by said UBS for P-polarized light reflected from said rear side.

3. (Original) The UBS of claim 1, wherein said UBS is operatively located in an optical interleaver and is therein configured to separate an incident beam of light into a first beam of light and a second beam of light.

4. (Original) The UBS of claim 3, wherein the phase difference between said first beam and said second beam is independent of the polarization status of said incident beam.

5. (Original) The UBS of claim 4, wherein said optical interleaver further comprises a reflector operatively positioned to reflect said first beam of light to produce a first reflected beam; and a non-linear phase generator (NLPG) operatively positioned to reflect said second beam of light to produce a second reflected beam, wherein said first reflected beam and said second reflected beam interfere with one another, wherein the frequency dependence of the phase difference between said first reflected beam and said second reflected beam has a step-like function.

6. (Currently amended) The UBS of claim 1, wherein said coating is designed to approximate the condition such that $\Psi_{SR} - \Psi_{SR'} = \Psi_{PR} - \Psi_{PR'}$, wherein Ψ_{SR} is the phase introduced by said UBS for S-polarized light reflected from said front side, wherein $\Psi_{SR'}$ is the phase introduced by said UBS for S-polarized light reflected from said rear side, wherein Ψ_{PR} is the phase introduced by said UBS for P-polarized light reflected from said front side, and wherein $\Psi_{PR'}$ is the phase introduced by said UBS for P-polarized light reflected from said rear side.

7. (Original) The UBS of claim 1, wherein said UBS is operatively located in an interferometer and is therein configured to separate an incident beam of light into a first beam of light and a second beam of light.

8. (Original) The UBS of claim 7, wherein the phase difference between said first beam and said second beam is independent of the polarization status of said incident beam.

9. (Currently amended) A unpolarized beamsplitter (UBS) comprising an internal beam-splitting coating having a structure ~~that looks about the same to a beam propagating through it from either side of said coating~~ configured such that a beam of light will see about the same layer structure whether it is incident from a front side or a rear side of said coating, wherein Ψ_{SR} is about equal to $\Psi_{SR'}$ and Ψ_{PR} is about equal to $\Psi_{PR'}$, wherein Ψ_{SR} is the phase introduced by said UBS for S-polarized light reflected from said front side, wherein $\Psi_{SR'}$ is the phase introduced by said UBS for S-polarized light reflected from said rear side, wherein Ψ_{PR} is the phase introduced by said UBS for P-polarized light reflected from said front side, and wherein $\Psi_{PR'}$ is the phase introduced by said UBS for P-polarized light reflected from said rear side .

10. (Canceled)

11. (New) A method, comprising:

providing an unpolarized beamsplitter (UBS) comprising an internal beam-splitting coating that is designed to approximate the condition such that $\Psi_{SR} - \Psi_{SR'} = \Psi_{PR} - \Psi_{PR'}$, wherein a beam of light will see the about the same layer

structure whether it is incident from a front side or a rear side of said coating, wherein Ψ_{SR} is the phase introduced by said UBS for S-polarized light reflected from said front side, wherein $\Psi_{SR'}$ is the phase introduced by said UBS for S-polarized light reflected from said rear side, wherein Ψ_{PR} is the phase introduced by said UBS for P-polarized light reflected from said front side, and wherein $\Psi_{PR'}$ is the phase introduced by said UBS for P-polarized light reflected from said rear side;

splitting an incident beam of light directed into said UBS into a first beam of light and a second beam of light; and

combining said first beam of light and said second beam of light to produce an interference pattern, wherein the phase difference between said first beam of light and said second beam of light is independent of the polarization status of said incident beam of light.